

RCR/JDW:lam 07/01/05 384613
PATENT

Attorney Reference Number 7273-70196-02
Application Number 10/758,117

Claims

1.-5. (Canceled)

6. (Currently amended) A method for operating a remote power management system, the method comprising the steps of:

(a) configuring a plurality of network appliances to each receive operating power from a corresponding one of a plurality of intelligent power modules (~~IPM's~~) such that each ~~IPM~~ intelligent power module can cycle operating power on/off to said corresponding network appliance ~~appliances~~ in response to a command issued by a host system;

(b) providing a power manager in communications with said host system and said plurality of intelligent power modules;

(c) providing a first command from said host system to said power manager identifying a particular intelligent power module;

(d) receiving a confirmation at said host system that said particular intelligent power module is responding to said first command; and

(e) providing a second command from said host system to said power manager commanding said particular intelligent power module to shut-off operating power to ~~a particular one of the~~ said corresponding network appliance ~~appliances~~ receiving operating power therefrom.

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7. (Original) The method of Claim 6 further comprising:
providing a Transfer-Control-Protocol/Internet-Protocol (TCP/IP) communication link
between said host system and said power manager; and
communicating between said host system and said power manager via said TCP/IP
communication link.
8. (Currently amended) The method of Claim 7 further comprising:
providing a network agent at said power manager; and
independently communicating a TCP/IP message to said network agent from said host
system for at least one of power-on sensing, load sensing, power cycling on/off, and tickle signal
generation.
9. (Original) The method of Claim 8 further comprising said host system
communicating TCP/IP packets effecting at least tow of said power-on sensing, load sensing,
power cycling on/off, and tickle signal generation.
10. (Original) The method of Claim 8 further comprising said host system
communicating TCP/IP packets effecting at least three of said power-on sensing, load sensing,
power cycling on/off, and tickle signal generation.
11. (Original) The method of Claim 8 further comprising said host system
communicating TCP/IP packets effecting all of said power-on sensing, load sensing, power
cycling on/off, and tickle signal generation.

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12. (Currently amended) The method of Claim 6, further comprising:
generating a signal and transmitting said signal to said host system through said TCP/IP communication link identifying a particular one of said corresponding plurality of network appliances associated with a target one of the plurality of intelligent power modules;
generating a tickle signal by the power manager in response to receiving a TCP/IP tickle initiating message from said host system; and
remotely detecting a probable wiring error inadequacy associated with a particular network appliance among the plurality of network appliances without adversely affecting the power supplied by said one among the plurality of ~~IPM's~~ intelligent power modules to said particular network appliance.

13. (Currently amended) The method of Claim 12 further comprising generating a tickle signal by each of the plurality of intelligent power modules which comprises a dry-contact relay output signal determining ~~[[the]]~~ a logic status of a signal receiving interface in an associated network appliance.

14. (Original) The method of Claim 13, further comprising answering said tickle signal by said associated network appliance by issuing a first signal when in a normal operating mode.

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15. (Original) The method of Claim 13, further comprising answering said tickle signal by said associated network appliance by issuing a first signal when in a normal operating mode.

16. (Original) The method of Claim 6, further comprising issuing a series of sensing pulses from ones of the plurality of intelligent power modules to corresponding ones of said plurality of network appliances, and reading and reporting any results that indicate a switched-on or switched-off condition.

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17. (Currently amended) A method for operating a remote power management system, the method comprising the steps of:

providing a host system with a network manager issuing read-status and write-control commands having a TCP/IP communication connection;

providing at least one remote node with a network agent connected to said TCP/IP communication connection, and comprising a plurality of inter-networking devices receiving operating power from a ~~an-uninterruptible~~ power supply (~~UPS~~);

providing a plurality of intelligent power modules (IPM) connected between the power supply ~~UPS~~ and said plurality of inter-networking devices, each of the intelligent power modules independently sensing power-on status of each of said plurality of inter-networking devices, independently sensing load status of each of said plurality of inter-networking devices, independently tickling each of said plurality of inter-networking devices, and independently controlling the operating power applied to said IPM corresponding inter-networking device; and providing a power manager with a network agent connected to said TCP/IP communication connection and each intelligent power module receiving said read-status and write-control commands, and controlling the power-on sensing, load sensing or power on/off by the intelligent power module in response thereto.

18. (Original) The method of Claim 17, further comprising said network manager communicating to one of said plurality of IPM and said IPM communicating to said network manager via said TCP/IP communication connection that said IPM has tickled a corresponding inter-networking device.

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19. (Original) The method of Claim 17, further comprising receiving a message and identity report at a network monitor issued by one of said plurality of inter-networking devices in response to a tickle signal.

20. (Original) The method of Claim 17, further comprising independently sensing the power-on status of said IPM-corresponding inter-networking device.

21. (Original) The method of Claim 20, further comprising communicating said power-on status of said IPM-corresponding inter-networking device to the network manager through the power manager as a variable in a managed information base (MIB) data construct by communicating over said TCP/IP communication connection according to a simple network management protocol (SNMP).

22. (Original) The method of Claim 17, further comprising communicating said load status of said IPM-corresponding inter-networking device to the network manager through the power manager as a variable in a managed information base (MIB) data construct by communicating over said TCP/IP communication connection according to a simple network management protocol (SNMP).

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23. (Original) The method of Claim 17, further comprising controlling said operating power applied to said IPM-corresponding inter-networking device to the network manager through the power manager in response to a variable in a managed information base (MIB) data construct by communicating over said TCP/IP communication connection according to a simple network management protocol (SNMP).

24. (Original) The method of Claim 17, further comprising:
applying a series of alternating current (AC) voltage pulses synchronized to a source of AC power to a plurality of inter-networking devices with an on/off switch.
sensing the presence of a series of AC current pulses that result if said device switch is closed;
analyzing any AC current pulses detected by the sensing means to determine if they resulted from an application of the AC voltage; and
outputting an on/off status indication for said switch.